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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,314	11/29/2000	Masaharu Amano	001337	8583

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ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP  
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WASHINGTON, DC 20006

EXAMINER

MAMMEN, NATHAN SCOTT

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/725,314

Applicant(s)

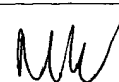
AMANO ET AL.

Examiner

Nathan S Mammen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-6 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 3-6, 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The last office action's explanation for the rejection of the claims is maintained and incorporated by reference. However, Applicant's response indicates that further clarification is necessary.

Contrary to Applicant's descriptions (see Remarks, page 6), the examiner is not stating that the Applicant's specification describes the existence of axial force fluctuations before the bucket tooth is bolted on the bucket. Instead, as stated in paragraph 2 of the last office action, the examiner is stating that the specification discloses that the *concave face* is present before the bucket tooth is bolted. Further evidence of this point can be found in Applicant's related U.S. Patent No. 6,647,648, which was a divisional of the instant application. That application describes the method of manufacturing the tooth, and it clearly describes the concave face being formed *before* the tooth is bolted to the bucket.

Applicant's instant claims are contrary to this construction. Applicant's instant claim 1 states that the bucket tooth "becomes a concave face during action of said axial force fluctuation means." This claimed limitation is contrary to Applicant's specification, in which the concave exists before action of the axial force fluctuation means. In fact, the concave face is a part of the

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axial force fluctuation means. As Applicant describes the invention in the specification, the fastening force of the bolt "works as an action force in the direction of canceling the warp."

Specification, page 4.

Instant claim 5 suffers from the same defect. Claim 5 recites that "during said fluctuations in axial force" the one face side "becomes a concave face." Again, this is contrary to the specification, in which the concave face is formed *before* the bucket tooth is bolted to the bucket and *before* the axial force fluctuation means absorbs axial forces.

Finally, Applicant's amendment to claim 1 adds a new indefinite term. Applicant has not set forth sufficient basis for the use of "beforehand". There is no timeline from which to measure "before" or "after." Applicant is advised to explicitly state when the warp is formed.

Since the rejection of the instant claims under 35 USC 112 is maintained, the claims, as best understood, are still rejected under the following art rejections.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by GB 2,176,520.

The GB '520 patent discloses an assembly for attaching a bucket tooth to a bucket lip. The bucket tooth (2) has a concave face. The concave face is positioned on the bucket lip (1). Due to the inherent properties of the bucket tooth material, the bucket tooth absorbs the axial force fluctuations of the fastening bolts.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2,176,520.

The GB '520 patent discloses the claimed invention, as stated in paragraph 4 above, except for the amount of warp. However, the amount of warp would have been obvious, since the deflection of the bucket tooth is dependent upon the force applied.

7. Claims 4-6, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2,176,520 in view of Rose et al. (U.S. Patent 4,958,970), cited in previous office actions.

The GB '520 patent discloses the claimed invention, as stated in paragraph 4 above, except for the bolt hole being spot faced. The Rose '970 patent teaches that it is known in the art at the time the invention was made to spot face an element on the side facing the surface to which it is to be bolted. It would have been obvious to one having ordinary skill in the art at the time the invention was made to spot face the bucket tooth of the GB '520 patent in order to provide an improved connection and force absorption means.

Regarding claims 6 and 16: The range of the ratio of depth of spot facing to the diameter would have been an obvious matter of design choice since, when the general properties of a claim are known, optimizing the ranges of result-effective variables involves only routine skill in the art. In re Aller, 105 USPQ 233 (1955).

***Response to Arguments***

8. Applicant's arguments filed 4/24/04 have been fully considered but they are not persuasive.

The response to Applicant's arguments concerning the rejection under 35 USC 112 is stated in paragraph 2 above.

The rejection of the instant claims under GB 2,176,520 patent publication and the Rose '970 patent is being maintained. This rejection is dependent upon the uncertain scope of the claims due to the claims indefiniteness. In other words, the rejection is based on the claims as best understood despite their indefiniteness.

Specifically, the GB '520 patent publication does disclose a concave face. While Applicant attempts to characterize it as "a recess" instead of a concave face, this attempt is ineffectual. Webster's Collegiate Dictionary, 10<sup>th</sup> Ed. defines concave as "hollowed or rounded inward like the inside of a bowl." In a reasonable interpretation, the GB '520 patent publication shows a face clearly hollowed inward.

In addition, it is true that the GB '520 patent publication does not show warpage as defined in Applicant's claim 3. However, claim 3 is rejected as being obvious – not anticipated – over the GB '420 patent publication, and Applicant has not argued that the claimed warpage would not be obvious.

*Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Mammen whose telephone number is (703) 306-5959. The examiner can normally be reached Monday through Thursday from 6:30 a.m. to 5:00 p.m.

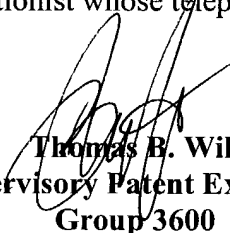
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at (703) 308-3870. The fax number for this Group is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-1113.



**Thomas B. Will**  
**Supervisory Patent Examiner**  
**Group 3600**

**NSM**  
**7/23/04**

**Nathan S. Mammen**